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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,213	03/18/2004	Kenneth C. Shuey	ELSE-0827/#20030020	5831

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EXAMINER

PATEL, PARESH H

ART UNIT PAPER NUMBER

2829

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,213

Applicant(s)

SHUEY, KENNETH C.

Examiner

Paresh Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 and 19-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-13 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4, 7-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munday et al. (US 5457621) in view of Aihara et al. (US 4015146) and MacPhee et al. (US 4638245).

Regarding claim 1, Munday et al. (hereafter Munday) in fig. 1-3 discloses an electrical power meter having electronic components, wherein the electrical power meter receives alternating current (AC) voltage from an electrical power line, the meter comprising:

a power supply [20, 22, 24, 28] for converting the AC voltage [e.g. phase A voltage] to a direct current (DC) voltage [12v or 5v or 205v] for powering the electronic components [e.g. 14 or 16 or both], wherein the AC voltage provides

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an electrical reference potential [e.g. from 28 or VREF, see fig. 2] for the electronic components; and

a DC power source [+5 at 96, 26, VDD and/or +5.5, see fig. 2-3, or 20, 22, 24 or 26 in fig. 1] in parallel circuit configuration with the AC voltage, wherein the DC power source provides a DC bias voltage [see fig. 2-3] to the AC voltage.

Munday discloses all the elements except for the DC bias voltage maintains the AC voltage above a predetermined voltage level acceptable to the power supply. Aihara et al. (hereafter Aihara) in fig. 1 suggests an embodiment where power supply Vi has ac voltage source on which a dc bias voltage of an appropriate value is superimposed. MacPhee et al. (hereafter MacPhee) discloses an apparatus for detecting a ground fault in an underground DC power supply. MacPhee also discloses AC voltage applying means comprises a DC bias voltage source not less than the peak voltage of the AC voltage source and the sum of the DC bias voltage source and the peak voltage of the AC voltage source is preferably, not greater than the votage of the DC power supply. Advantageously, the DC bias voltage is about half the voltage of the DC power supply. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Munday with suggestion of Aihara and teaching of MacPhee for detecting a ground fault in the power supply.

Regarding claim 2, Munday discloses the meter of claim 1, wherein the DC power source comprises a diode [100 in fig. 2 and diode in fig. 3].

Regarding claim 4, Munday discloses the AC voltage creates a relatively small voltage across the diode [for example at 100].

Regarding claim 7, Munday discloses the DC power source comprises a first resistive element [e.g. 98 with 100, see fig. 2] in series connection with the diode.

Regarding claim 8, Munday discloses the DC power source provides a DC voltage having a value that biases the AC voltage-based reference potential to a value that permits operation of the electronic components [14, see fig. 2].

Regarding claim 9, Munday discloses the electronic components comprise a voltage sensing circuit for sensing the AC voltage [see fig. 2].

Regarding claim 10, Munday discloses the voltage sensing circuit comprises a resistive divider circuit [for example 62 with 50, 52].

Regarding claim 11, Munday the resistive divider circuit comprises a first [50], second [52], and third [62] resistive element.

Regarding claim 12, Munday the first and second resistive element each have a value of approximately 1 megaohm [lines 38-39 of column 5].

Regarding claim 13, Munday the DC power source biases the AC voltage as a function of the AC voltage [see fig. 2].

Regarding claim 18, Munday the AC voltage-based reference potential is greater than negative power supply rail [due to drop at resistive divider, see lines 37-60 of column 5].

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4. Claims 3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munday, Aihara and MacPhee as applied to claims 2 and 1 above.

Regarding claim 3, Munday, Aihara and MacPhee discloses all the elements except for the diode has a forward bias current of approximately 0.5 milliamps and a forward bias voltage of approximately 0.584 volts. Rather, Munday discloses the diode as mentioned above but is silent about diodes ratings as claimed here. It would have been an obvious matter of design choice for one having ordinary skill in the art at the time the invention was made to select such ratings as claimed, since equivalent structure i.e. diode is used in the modified meter of Munday and selection of known diode rating as claimed with meter, were art recognized equivalents to control electrical parameter e.g. the current and/or voltage, with characteristic of the diode.

Regarding claim 6, Munday, Aihara and MacPhee discloses all the elements including the diode. However, is silent about an IN914 diode. It would have been an obvious matter of design choice for one having ordinary skill in the art at the time the invention was made, since equivalent structure i.e. diode was used in the modified meter of Munday and selection of known diode as claimed with meter, were art recognized equivalents to control electrical parameter e.g. the current and/or voltage, in electrical/electronic circuits with different characteristic of the diode.

Regarding claim 5, Munday, Aihara and MacPhee discloses all the elements including the diode. However, Munday is silent about a dynamic AC

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impedance of the diode is approximately an order of magnitude less than a DC impedance of the diode. It would have been an obvious matter of design choice for one having ordinary skill in the art at the time the invention was made, since equivalent structure i.e. diode was used in the modified meter of Munday and selection of known diode with impedances as claimed with meter, were art recognized equivalents to control electrical parameter e.g. the current and/or voltage, in electrical/electronic circuits with different characteristic of the diode.

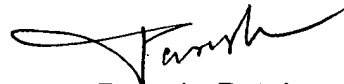
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 571-272-1968. The examiner can normally be reached on 8:00 to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paresh Patel
Primary Examiner
Art Unit 2829

September 05, 2006